ROUTE CONCEPT REPORT

STATE ROUTE 45

by
CALTRANS
District 3

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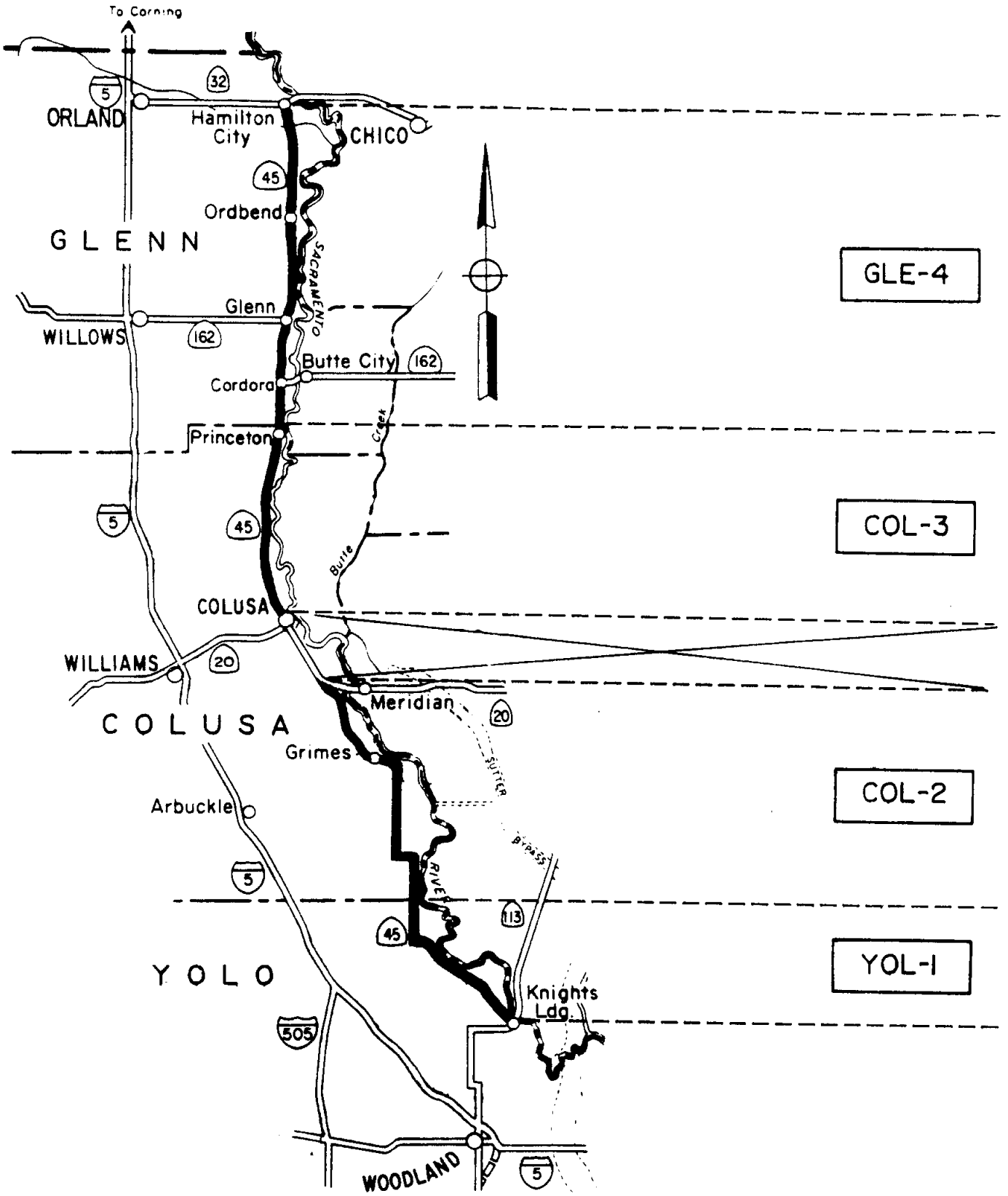

STATE ROUTE 45

ROUTE SEGMENT MAP

ROUTE CONCEPT REPORT SUMMARY

ROUTE CONCEPT

Segment/ County	Post Mile	Existing Peak Period Level of Service	20-year Peak Period Concept Level of Service	Existing Facility	20-Year Concept Facility
1-Yolo	0.0/12.9	B	D	2C	2C
2-Colusa	0.0/19.8	B	D	2C	2C
3-Colusa	19.9/34.2	D	D	2C	2C
4-Glenn	0.0/23.2	B	D	2C	2C

The Highway 45 route concept is to maintain the existing two-lane conventional highway as a lower priority "farm-to-market" route with a concept level of service D.

ROUTE CONCEPT RATIONALE

Route 45 is a low volume minor arterial that serves farm-to-market and local traffic in a rural area. No appreciable growth and development is anticipated in the rural areas served by this State highway. Since current and expected future traffic will operate at levels of service at or above concept LOS D, capacity enhancing improvements should not be needed during the 20-year period. State Route 45 falls in the maintenance service level Class II category. Maintenance service level II is the second priority of funding available for rehabilitation (RRR) and maintenance projects.

IMPROVEMENTS NECESSARY TO ACHIEVE THE ROUTE CONCEPT

Only spot improvements with rehabilitation and curve correction projects should be needed over the next 20 years. Only minimal long-term right of way needs are foreseen for minor shoulder widening and horizontal alignment improvements. Raising the grade and minor drainage work in areas prone to flooding during wet years may also be required.

ULTIMATE TRANSPORTATION CORRIDOR

Beyond the year 2010, Route 45 will likely remain a two-lane conventional highway with few changes from the facility that exists today. Spot improvements and rehabilitation projects will continue to be implemented as necessary.

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ROUTE CONCEPT REPORT

Introduction and Planning Intent

The Route Concept Report (RCR) is a planning document which describes the Department's basic approach to development of a given route. Considering reasonable financial constraints and projected travel demand over a 20-year planning period, the RCR defines an appropriate type of facility and level of service for each route. The objective of the effort is to provide a better basis for the development of the State Transportation Improvement Program and for determination of the appropriate concept for future highway projects.

Route Concept Reports are prepared by District staff in cooperation with local and regional agencies. They will be updated as necessary as conditions change or new information is obtained.

Route Concept Reports are a preliminary planning phase that leads to subsequent programming and the project development process. As such, the specific nature of proposed improvements (i.e., roadway width, number of lanes, access control, etc.) may change in later project development stages, with final determinations made during the project report and design phases. Roadway widths, as discussed in Route Concept Reports, are used for the purpose of estimating improvement costs, and may change depending upon operating conditions and design standards at the time of actual project development.

Assumptions

The following assumptions form the basis for the development of Route Concept Reports:

1. The relative importance of State highways in the District can generally be established based on the functional classification of the routes. In general, higher priorities will be given to major improvements on principal arterial routes as compared to minor arterials and collectors.

2. For routes the District can reasonably expect to improve (generally Principal Arterials), realistic concept Level of Service (LOS) must be established for each route in order to have route concepts and route development plans which are possible to achieve, given a forecast of future revenues. A concept LOS is not established on routes which will only be rehabilitated and/or maintained.

3. Level of service and capacity calculations are based on the 1985 Highway Capacity Manual. Previous Route Concept Report level of service and capacity calculations were based on the 1965 Highway Capacity Manual.

4. Determinations of future LOS for the routes in District 3 are based in part upon Statewide and District forecasts of State highway travel developed by Caltrans.

5. Route concepts are generally uniform for an entire route, unless there is a major change in function along the route.

6. Major projects will be developed to meet standards acceptable to the Federal Highway Administration in order to receive Federal funding for projects. Otherwise, a "design exception" will be prepared during the project development process.

7. For all routes, safety projects will be pursued on an on-going basis in order to be responsive to safety problems as they are identified.

ROUTE DESCRIPTION AND PURPOSE

State Route 45 is a north-south two-lane conventional highway that serves local farm-to-market commerce in rural areas of the central Sacramento Valley northwest of Sacramento. Route 45 begins at the junction with Route 113 in Knights Landing and extends northward through Yolo, Colusa, and Glenn Counties across flat terrain parallel to the Sacramento River. At the junction of State Route 20 west of Meridian in Colusa County a break in Route 45 occurs. In the City of Colusa, Route 45 again continues northward to Hamilton City where the route ends at the junction of Route 32. The total length of Route 45 is 70.1 miles.

The route is classified as a major collector (Federal-Aid Secondary) from Knights Landing to Route 20 near Meridian, and as a minor arterial (Federal-Aid Primary) from Route 20 near Colusa to Hamilton City. That portion of Route 45 between the town of Colusa and the Colusa/Glenn County line is designated as a Terminal Access Route to the National Truck Network. Traffic using Route 45 includes a high percentage of trucks and farm equipment. State Route 45 falls in the maintenance service level Class II category, which is the second priority for funding available to do normal interval maintenance and rehabilitation projects. The legislative route description states "Route 45 is from: (a) Route 113 near Knights Landing to Route 20 near Sycamore; (b) Route 20 near Colusa to Route 32 near Hamilton City."

ROUTE CONCEPT

The route concept is to maintain the existing two-lane conventional highway with a level of service D. Minor curve corrections, some shoulder widening and rehabilitation projects are the primary improvements anticipated over the 20-year period.

Segment/ County	Post Mile	Existing Peak Period Level of Service	Peak Period Concept Level of Service	Existing Facility	20-Year Concept Facility
1-Yolo	0.0/12.9	B	D	2C	2C
2-Colusa	0.0/19.8	B	D	2C	2C
3-Colusa	19.9/34.2	D	D	2C	2C
4-Glenn	0.0/23.2	B	D	2C	2C

ROUTE CONCEPT RATIONALE

Route 45 is a feeder route of economic importance for local farm-to-market traffic, but is of minor importance to the state highway system as a whole. Route 45 is a low volume minor arterial that serves agriculture and local traffic in a rural area. Two major routes (I-5 and 99) parallel Route 45 and carry most of the inter-regional traffic. Route 45 does not serve as a reliever route for either state highway. Current and future levels of service are at or above concept LOS D; therefore, capacity enhancing improvements are not expected during the 20 year period.

ROUTE ANALYSIS

Route 45 is divided into four (4) segments which reflect county boundaries and a break in the route. Traffic conditions currently vary from level of service (LOS) B in Yolo, Colusa and Glenn Counties on Segments 1, 2 and 4 to LOS D on Colusa Segment 3. These traffic conditions are not projected to change much through the year 2010. The highest traffic on Route 45 occurs on Segment 3 north of Colusa, which is expected to increase from 7,200 AADT today to 10,500 AADT in the year 2010. Route segment information is summarized at the end of the report in Table 3.

Right of way widths vary throughout Route 45. Much of the right of way is prescriptive, (the road has served as a public way since the 19th century) and cannot be defined without extensive research. Route 45 is a two-lane conventional highway with lanes that are 9 to 14 feet wide and shoulders that are 0 to 8 feet wide. The existing highway has less than desirable horizontal alignment with a number of right-angle turns. Portions of the route run along the top of the Sacramento River Levee System.

Portions of Route 45 are constructed over a subgrade consisting of highly expansive clays. Seasonal irrigation of adjacent rice fields and ground saturation from winter rains cause saturation of the subgrade which leads to pavement failure under heavy loads (9 to 15% truck use). This presents an ongoing problem in maintaining this highway. Recurrent flooding during heavy storms has caused some road closures. The following table indicates some of the more serious flood areas along the route.

TABLE 2

AREAS WHICH HAVE EXPERIENCED FLOODING SINCE 1980

CO./RTE.	POST MILE	YEAR	CO./RTE.	POST MILE	YEAR
Yolo 45	7.0	1983	Colusa 45	0.7	1983
Colusa 45	7.7/9.0	1983	Colusa 45	20.1	1983
Colusa 45	22.3/23.1	1983	Colusa 45	25.4/27.3	1986
Glenn 45	5.9	1983	Glenn 45	12.4/19.2	1987

IMPROVEMENTS NECESSARY TO ACHIEVE THE ROUTE CONCEPT

All segments on State Route 45 are currently operating at LOS B or D. At the end of the 20-year route concept period (year 2010), all segments on Route 45 will still be operating at or above LOS D. No appreciable growth and

development is anticipated in the rural areas served by this low volume State highway.

Periodic spot improvements, including rehabilitation and curve correction projects, may be required over the 20-year period. Raising the grade and minor drainage work in areas prone to flooding during wet years (see Table 2 locations) may also be necessary. Only minimal long-term right of way needs are foreseen for the route to address such measures as spot shoulder widening and horizontal alignment improvements.

Portions of the route have minimal or no shoulders creating occasional backups during the movement of wide agricultural equipment. In Segment 3 from Brown Road south to the town of Colusa, school children regularly walk to school for a short distance along the State highway. The Colusa County Transportation Commission and residents have expressed interest in widening the shoulders of this portion of Route 45 to accommodate bicyclists and pedestrians. The town of Colusa and Colusa County propose to prepare a bikeway plan. Shoulder widening with appropriate bicycle route signing could be incorporated with rehabilitation projects over the years.

ULTIMATE TRANSPORTATION CORRIDOR

Beyond the year 2010, Route 45 will likely remain a two-lane conventional highway with few changes from the facility that exists today. Spot improvements and rehabilitation projects will continue to be implemented as necessary.

COMMENTS FROM OTHER AGENCIES

The draft Route Concept Report was circulated to all county planning and public works directors and regional transportation planning agencies along the Route 45 corridor. The Glenn County Transportation Commission commented that traffic operational and enforcement measures should be considered on Highway 45 through the communities of Hamilton City and Ord Bend.

TABLE 3

	Jct Rte 113	Colusa Co. Line	S. Jct Rte 20	N Jct Rte 20	Glenn Co Line	Jct Rte 32
Post Miles	0.0/12.9		0.0/19.8		19.9/34.2	0.0/23.2
SEGMENT/COUNTY	1-YOL		2-COL		3-COL	4-GLE
Present Facility (after STIP)	2C		2C	BREAK IN ROUTE	2C	2C
CONCEPT FACILITY - 20 YEAR	2C		2C		2C	2C
Current LOS 1987	B		B		D	B
Expected LOS 2000	B		B		D	B
Expected LOS 2010	B		B		D	B
CONCEPT LOS -20 YEAR	D		D		D	D
Present AADT -1987	1200		1200		7200	2400
Projected AADT -2000	1600		1500		9100	3060
Projected AADT -2010	1950		1800		10500	3560
Annual % Traffic Growth	2.7		2.1		2.0	2.1
Facility Capacity(AfterSTIP)	2170		2150		2420	2330
Peak Period V/C ratio-1987	0.10		0.12		0.36	0.14
Peak Period V/C ratio-2000	0.16		0.15		0.46	0.20
Peak Period V/C ratio-2010	0.19		0.17		0.52	0.23
LOS falls BELOW CONCEPT	After 2010		After 2010		After 2010	After 2010
Peak Period Hourly Vol-1987	180		180		790	260
Peak Period Hourly Vol-2000	240		230		1000	370
Peak Period Hourly Vol-2010	290		270		1150	430
Peak Period Directional Split 1987	0.55		0.77 *		0.52	0.55
Peak Period Truck Percentage 1987	0.10		0.15		0.09	0.12
Daily Truck Percentage-1987	0.11		0.11		0.14	0.12
Total Accident Rate vs Statewide Avge.	0.16		0.55		0.52	1.13
F+I Accident Rate vs Statewide Avge.	0.00		0.36		0.64	1.66
Predominant adjacent land use	AGR.		AGR.		AGR.	AGR.
Terrain (Max. grades)	FLAT		FLAT		FLAT	FLAT

ROUTE SEGMENT INFORMATION

* BASED ON TRAFFIC COUNTS TAKEN AT SO. JCT. RTE. 20 (SAT. A.M. PEAK)